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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/724,815	11/28/2000	Alexandre N. Terentiev	642-001	8209

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EXAMINER
SOOHOO, TONY GLEN

ART UNIT	PAPER NUMBER
1723	

DATE MAILED: 07/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/724,815	TERENTIEV, ALEXANDRE N.	
	Examiner	Art Unit	
	Tony G Soohoo	1723	

-- Th MAILING DATE of this communication appears on the cov r sheet with th correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 April 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10-28,39,40,42-55,57-85,94-97,111-117 and 123-163* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *55,57-85,94-97,111-117,123,124,127-155 and 161-163* is/are allowed.

6)☒ Claim(s) *1-8,10-15,50-54,125,126 and 156-160* is/are rejected.

7)☒ Claim(s) *16-28,39,40 and 42-49* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *13* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Priority

1. The file wrapper history indicates in the DECLARATION a desire to claim priority under 119(e) to 60/239,187 (09OCT2000) and under 120 to 09/460,900 (14DEC1999) (Note: a typographic error to the serial no. which should refer to 09/460,600). This was restated in the 1st paragraph of the originally filed specification filed on 11/28/00 which stated: "This application claims benefit of the filing date of : (1) US Patent Application Ser. No. 09/460,600 filed December 14, 1999; and (2) U.S. Provisional Patent Application Ser. No. 60/239,187. – 10/9/2000 filed

However, applicant on the amendment filed 18JAN2002, on pages 1-2 states "Please delete the priority claim on page 1 and replace with the following:-- This application claims benefit of the filing date of U.S. Provisional Patent Application Ser No. 60/239,187, filed October 9, 2000.---"

Further applicant acknowledges a desire to have the patent term measured from October 9, 2000.

By such a change, thus it appears that applicant does NOT DESIRE A CONTIUITY AND PRIORITY OF THE PARENT APPLICATION 09/460,600 of the date (14 DEC 1999). By the change of the 1st paragraph of the specification, the date in which applicant desires as an effective filing date is that of the Provisional Patent Application Ser. No. 60/239,187, to 09 OCT 2000. Thereby this severs the continuity of the parent application and an earlier effective filing date of 14 DEC 1999.

2. This application discloses and claims only subject matter disclosed in prior Application No. 09/460,600, filed 12/14/*1999*, and names an inventor or inventors named in the prior application. Accordingly, this application may constitute a continuation or division. Should applicant desire to obtain the benefit of the filing date of the prior application, attention is directed to 35 U.S.C. 120 and 37 CFR 1.78.

Claim Rejections - 35 USC § 112

3. Claims 156-160 provides for the use of the respective systems of 1, 50, 55, 70, and 83, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 156-160 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Double Patenting

(a) One-Way Obviousness
If the application at issue is the later filed application or both are filed on the same day, only a one-way determination of obviousness is needed in resolving the issue of double patenting, i.e., whether the invention defined in a claim in the application is an obvious variation of the invention defined in a claim in the patent. See, e.g., In re Berg, 46 USPQ2d 1226 (Fed. Cir. 1998) (the court applied a one-way test where both applications were filed the same day). If a claimed invention in the application is obvious over

a claimed invention in the patent, there would be an unjustified timewise extension of the patent and an obvious-type double patenting rejection is proper. Unless a claimed invention in the application is obvious over a claimed invention in the patent, no double patenting rejection of the obvious-type should be made, but this does not necessarily preclude a rejection based on another type of nonstatutory double patenting (see MPEP § 804, paragraph II.B.2. below).
Similarly, even if the application at issue is the earlier filed application, only a one-way determination of obviousness is needed to support a double patenting rejection in the absence of a finding of: (A) administrative delay on the part of the Office causing delay in prosecution of the earlier filed application; and (B) applicant could not have filed the conflicting claims in a single (i.e., the earlier filed) application. See MPEP § 804, paragraph II.B.1.(b) below.

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

IT IS NOTED THAT APPLICANT HAS SEVERED CONTINUITY BETWEEN THAT OF THE INSTANT APPLCIATION AND WITH US PATENT 6416215. ACCORDINGLY CLAIMS LISTED, if allowed, would present an unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees.

5. Claim 1-8, 10-15, 50-52, 53-54, 125, and 126 rejected under the judicially created doctrine of double patenting over claims 1-2, 9-11, 13, 15, 17-23, 25-26, and 50 of U. S. Patent No. . 6416215 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent, since there is NO CLAIM OF CONTINUTITY BETWEEN THAT OF THE PATENT AND THE APPLICATION.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: SEE THE DETAILED TABLE BELOW with regards to conflicting claims between the application and the patent 6041215.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

6. Claims 1-4 are provisionally rejected under the judicially created doctrine of double patenting over claims 1-4 of copending Application No. 10/1200006. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows: SEE TABLE BELOW with regards to conflicting claims between the two applications.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

TABLE OF CONFICTING CLAIMS BETWEEN APPLICATION AND PATENT

The following table shows the corresponding application claims readable upon the U.S. patent claims.

Corresponding Claims	
Application 09/724,815 Claim number(s)	U.S. Patent 6416215 Claim number(s)
1-2	1-2
3-6,	8-11
7	13
8	15
10-14	17-21
15	20, 25 or 50, a sealed container.
50-51, 126	22, 23 , 11 and 19
52	24
53-54	25-26
125	11 and 19

TABLE OF CONFICTING CLAIMS BETWEEN TWO APPLICATIONS

The following table shows the corresponding application claims readable upon the U.S. patent claims.

Corresponding Claims	
Application 09/724,815 Claim number(s)	Application 10/10/1200006 Claim number(s)
1-4	1-4

DETAILED TABLE OF CONFLICTING CLAIMS.

INSTANT APPLICATION 09/724,815 *There is a question that applicant DOES NOT DESIRE TO CLAIM Priority 120 to 09/460,600, see above in the section PRIORITY* Priority 119(e) to 60/239,187 (09OCT2000)	Patent US 6416215 (09JUL2002) Application 09/460,600 (14DEC1999)	Application 10/1200006 (10APR2002) Pub No. 2002/0145940 Priority 119(e) to 60/282,931 (10APR2001)
CLAIMS: 1. A system for pumping or mixing a fluid in - a vessel, comprising: -a magnetic pumping or mixing element for placement in a vessel -at least one superconducting element for levitating said magnetic pumping or mixing element; - a wall defining a chamber around the super	CLAIMS: 1. A system for pumping or mixing a fluid in - a vessel, comprising: -a magnetic element for placement in the vessel; - a superconducting element for levitating said magnetic element; -a wall defining a chamber around the	CLAIMS: 1. A fluid pumping or mixing system, comprising: - a vessel or container for holding a fluid and a product; - a magnetic element capable of providing a pumping or mixing action to the fluid upon rotation; -at least one superconducting element for levitating said magnetic element in the vessel or container; - a wall defining a chamber around the

conducting element, said chamber thermally isolating the superconducting element;	superconducting element, said chamber thermally isolating the superconduction element from the vessel;	superconducting element, said chamber thermally isolating the superconducting element from the vessel or container;
- a cooling source thermally linked to said superconducting element;	- a cooling source thermally linked to said superconducting element;	- a cooling source thermally linked to said superconducting element;
- a motive device for rotating said superconducting element.	- a motive device for rotating said magnetic element, whereby the fluid is pumped or mixed by the rotation of the magnetic element.	- a motive device for rotating said magnetic element or said superconducting element.
2. The system for Pumping or mixing a fluid according to claim 1, wherein the chamber is evacuated or insulated to minimize thermal transfer from said superconducting element to said wall and provide desired thermal isolation. *"*EVACUATED" AND "VACUUM" EQUATES TO ONE ANOTHER*	2. The system for pumping or mixing a fluid according to claim 1, wherein a vacuum is maintained in the chamber around said superconducting element to minimize thermal transfer to said wall and provide the desired thermal isolation.	2. The system for pumping or mixing a fluid according to claim 1, wherein the chamber is evacuated or insulated to minimize thermal transfer from said superconducting element to said wall and provide the desired thermal isolation.

3. The system for pumping or mixing a fluid according to claim 1 wherein	8. The system for pumping or mixing a fluid according to claim 1, wherein	3. The system for pumping or mixing a fluid according to claim 1, wherein
-said wall is the outer wall of a cryostat and	-said wall is the outer wall of a cryostat and	- said wall is the outer wall of a cryostat and
-said cooling source is a chamber in said cryostat	-said cooling source is a chamber in said cryostat	- said cooling source is a chamber in said cryostat
-holding a liquid cryogen **LIQUID NITROGEN IS A LIQUID CRYOGEN Or would have been obvious to use any cryogen*	-holding liquid nitrogen.	- holding a liquid cryogen.
4. The system for pumping or mixing a fluid according to claim 1, wherein	9. The system for pumping or mixing a fluid according to claim 1, wherein	4. The system for pumping or mixing a fluid according to claim 1, wherein said
-- said cooling source is a refrigerator.	- said cooling source is a refrigerator.	-cooling source is a refrigerator.
5. The system for pumping or mixing a fluid according to claim 1, wherein	10. The system for pumping or mixing a fluid according to claim 1, wherein	
-said thermal linking is provided by	-said thermal link is provided by	
-a rod extending between said superconducting element and said cooling source.	- a rod extending between said superconducting element and said cooling source.	

6. The system for pumping or mixing a fluid according to claim 1 wherein - said levitating magnetic pumping or mixing element further includes - a first permanent magnet positioned adjacent to said superconducting element but external to said wall.	11. The system for pumping or mixing a fluid according to claim 1, wherein -said levitating magnetic element is a magnetic bearing that further includes -a first permanent magnet positioned adjacent to said superconducting element but external to said wall.	
7. The system for pumping or mixing a fluid according to claim 6 wherein - said magnetic pumping or mixing element further includes - a second permanent magnet spaced from said first permanent magnet for forming a magnetic coupling with said superconducting element, - whereby said magnetic coupling serves to transmit driving torque from said superconducting element to said magnetic pumping or mixing element. **The term in Patent claim 13 "magnet" as defined in the scope as read in light of the*	13. The system for pumping or mixing a fluid according to claim 11, wherein -said magnetic bearing further includes - a second permanent magnet spaced from said first permanent magnet for forming a magnetic coupling with a drive magnet forming a part of said motive device, -whereby said magnetic coupling serves to both transmit driving torque from said drive magnet to said magnetic bearing and stabilize the levitation of said magnetic bearing.	

specification is inclusive of superconducting magnets. 8. The system form pumping or mixing a fluid according to claim 7 wherein said motive device for said superconducting element -includes a motor.	15. The system for pumping or mixing a fluid according to claim 13, wherein said motive device for said magnetic bearing - includes a motor for rotating said drive magnet.	
10. The system for pumping or mixing a fluid according to claim 1, wherein - said wall is below said magnetic pumping or mixing element and the vessel rests atop said wall.	17. The system for pumping or mixing a fluid according to claim 1, wherein -said wall is below said magnetic element and the vessel rests atop said wall.	
11. The system for pumping or mixing a fluid according to claim 1, wherein a gap is provided between said superconducting element and inner surface of said wall of approximately 0.01 to 5 millimeters.	18. The system for pumping or mixing a fluid according to claim 1, wherein a gap is provided between said superconducting element and an inner surface of said wall of approximately 0.01 to 5 millimeters.	
12. The system for pumping or mixing a fluid according to claim 1, wherein -the vessel includes an inlet	19. The system for pumping or mixing a fluid according to claim 1, wherein -the vessel includes an	

and an outlet and said rotating magnetic pumping or mixing element - includes at least one blade for reacting a pumping action that forces fluid to move from said inlet to said outlet.	inlet and an outlet, and further -including at least one impeller associated with said magnetic element that creates an enhanced pumping action that forces fluid to move from said inlet to said outlet.	
13. The system for pumping or mixing a fluid according to claim 1, wherein -said vessel is completely sealed and said magnetic pumping or mixing element serves to mix the fluid only.	20. The system for pumping or mixing a fluid according to claim 1, wherein - said vessel is completely sealed and said magnetic element serves to mix the fluid only.	
14 The system for pumping or mixing a fluid according to claim 1 wherein -the vertical center axis of rotation of the magnetic pumping or mixing element is offset from the vertical center axis of the vessel.	21. The system for pumping or mixing a fluid according to claim 1, wherein -the vertical center axis of rotation of the magnetic element is offset from the vertical center axis of the vessel.	
15. The system according to claim 1, wherein the vessel is selected from the group consisting of an open-top container, a sealed container, a disposable container, a rigid container, a container having an inlet and outlet, a hollow pipe and a flexible bag.		

50. A system for mixing a fluid comprising: - a vessel for holding the fluid; - a magnetic pumping or mixing element for positioning in said vessel; - a superconducting element for levitating and forming a magnetic coupli8ng with said magnetic pumping or mixing element; - a housing defining a chamber around said superconducting element for thermally isolating said superconducting element from said vessel; - a cooling source thermally linked to said superconducting element; and - a motive device for rotating said superconducting element.	22. A system for mixing a fluid, comprising: - a vessel for holding the fluid; - a magnetic element positioned in said vessel; - a superconducting element; -a housing defining a chamber around said superconducting element for thermally isolating said superconducting element from said vessel; -a cooling source thermally linked to said superconducting element; and - a motive device to rotate said magnetic element, whereby the superconducting element is positioned adjacent to the vessel for levitating the magnetic element in the vessel and the rotation of the magnetic element creates the mixing action in the fluid.	

51. The mixing system according to claim 50 wherein said chamber surrounding said superconducting element is evacuated to minimize thermal transfer to said housing and provide the desired thermal isolation.	23. The mixing system according to claim 22, wherein said chamber surrounding said superconducting element is evacuated to minimize thermal transfer to said housing and provide the desired thermal isolation.	
52. The mixing system according claim 50, wherein said vessel includes an inlet and outlet and said magnetic pumping missing element further includes -at least one blade or vane for creating a pumping action that forces fluid to move from said inlet to said outlet.	24. The mixing system according to claim 22, wherein said vessel includes an inlet and an outlet, and said magnetic element includes -at least one impeller that creates an enhanced pumping action that forces fluid to move from said inlet to said outlet.	
53. The mixing system according to claim 50, wherein said vessel is completely sealed from the outside environment	25. The mixing system according to claim 22, wherein said vessel is completely sealed from the outside environment.	
54. The mixing system according to claim 25, wherein said vessel and magnetic element are disposable.	26. The mixing system according to claim 25, wherein said vessel and magnetic element are disposable.	
125. The pumping or mixing system of claim 1, wherein the pumping or mixing element is	(CLAIMS 11 and 19) (claim 11) The system for pumping or mixing a fluid according to claim 1,	

	wherein said levitating magnetic element is	
-a magnetic bearing,	-a magnetic bearing that further includes a first permanent magnet positioned adjacent to said superconducting element but external to said wall. (and claim 19) The system for pumping or mixing a fluid according to claim 1, wherein the vessel includes an inlet and an outlet, and further	
- impeller, or rotor or other means for generating a pumping or mixing action in a fluid.	-including at least one impeller associated with said magnetic element that creates an enhanced pumping action that forces fluid to move from said inlet to said outlet.	
126. The pumping or mixing system of claim 50, wherein the pumping or mixing element is	(CLAIMS 11 and 19) (claim 11) The system for pumping or mixing a fluid according to claim 1, wherein said levitating magnetic element is	
-a magnetic bearing,	-a magnetic bearing that further includes a first permanent magnet positioned adjacent to	

	said superconducting element but external to said wall. (and claim 19) The system for pumping or mixing a fluid according to claim 1, wherein the vessel includes an inlet and an outlet, and further	
- impeller, or rotor or other means for generating a pumping or mixing action in a fluid	-including at least one impeller associated with said magnetic element that creates an enhanced pumping action that forces fluid to move from said inlet to said outlet	

Allowable Subject Matter

7. Claims 16-28, 39-40, 42-49, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 55, 57-69; 70-85; 94-97, 111-117; 123-124; 127-130; 131-155; 161-163 are allowed.

Response to Arguments

9. Applicant's arguments with respect to claims pending have been considered but are moot in view of the new ground(s) of rejection, whereas additional rejections has been made and added issues has been raised by the examiner.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony G Soohoo whose telephone number is (703) 308-2882. The examiner can normally be reached on 7:00 AM - 5:00 PM, Tues. - Fri.. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications .Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Tony G Soohoo
Primary Examiner
Art Unit 1723

tgs